



PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : C12N 9/20 // C11D 3/386, A21D 8/04, A23L 1/105		A1	(11) International Publication Number: WO 00/32758 (43) International Publication Date: 8 June 2000 (08.06.00)																		
<p>(21) International Application Number: PCT/DK99/00664</p> <p>(22) International Filing Date: 29 November 1999 (29.11.99)</p> <p>(30) Priority Data:</p> <table> <tr><td>PA 1998 01572</td><td>27 November 1998 (27.11.98)</td><td>DK</td></tr> <tr><td>60/111,430</td><td>8 December 1998 (08.12.98)</td><td>US</td></tr> <tr><td>PA 1999 00391</td><td>22 March 1999 (22.03.99)</td><td>DK</td></tr> <tr><td>60/126,914</td><td>29 March 1999 (29.03.99)</td><td>US</td></tr> <tr><td>PA 1999 01481</td><td>15 October 1999 (15.10.99)</td><td>DK</td></tr> <tr><td>60/160,735</td><td>22 October 1999 (22.10.99)</td><td>US</td></tr> </table> <p>(71) Applicant (for all designated States except US): NOVO NORDISK A/S [DK/DK]; Novo Allé, DK-2880 Bagsvaerd (DK).</p> <p>(72) Inventors; and</p> <p>(75) Inventors/Applicants (for US only): BOJSEN, Kirsten [DK/DK]; Bakkedal 5, DK-2900 Hellerup (DK). SVENDSEN, Allan [DK/DK]; Bakkeledet 28, DK-3460 Birkerød (DK). FUGLSANG, Klaus, Crone [DK/DK]; Poppelhøj 43, DK-2990 Nivå (DK). SHAMKANT, Anant, Patkar [DK/DK]; Christoffers Allé 91, DK-2880 Lyngby (DK). BORCH, Kim [DK/DK]; Klerkegade 12 2tv, DK-1808 Copenhagen (DK). VIND, Jesper [DK/DK]; Bagsvaerdvej 115, DK-2880 Lyngby (DK). PETRI, Andreas [DK/DK];</p>		PA 1998 01572	27 November 1998 (27.11.98)	DK	60/111,430	8 December 1998 (08.12.98)	US	PA 1999 00391	22 March 1999 (22.03.99)	DK	60/126,914	29 March 1999 (29.03.99)	US	PA 1999 01481	15 October 1999 (15.10.99)	DK	60/160,735	22 October 1999 (22.10.99)	US	<p>Tagensvej 81, 3, DK-2200 Copenhagen (DK). GLAD, Sanne, Schrøder [DK/DK]; Viggo Barfoeds Allé 59, DK-2840 Holte (DK). BUDOLFSEN, Gitte [DK/DK]; Lyøvej 3, 3.tv., DK-2000 Frederiksberg (DK).</p> <p>(74) Common Representative: NOVO NORDISK A/S; Enzyme Business Patents, Novo Allé, DK-2880 Bagsvaerd (DK).</p> <p>(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p>	
PA 1998 01572	27 November 1998 (27.11.98)	DK																			
60/111,430	8 December 1998 (08.12.98)	US																			
PA 1999 00391	22 March 1999 (22.03.99)	DK																			
60/126,914	29 March 1999 (29.03.99)	US																			
PA 1999 01481	15 October 1999 (15.10.99)	DK																			
60/160,735	22 October 1999 (22.10.99)	US																			
<p>Published</p> <p><i>With international search report.</i></p> <p><i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p>																					
<p>(54) Title: LIPOLYTIC ENZYME VARIANTS</p> <p>(57) Abstract</p> <p>The substrate specificity of a lipolytic enzyme can be modified by making alterations to the amino acid sequence in a defined region of the lipolytic enzyme, so as to increase the level of a desired activity or to decrease the level of an undesired activity. Thus, the inventors have developed lipolytic enzyme variants with a modified amino acid sequence with a substrate specificity which can be tailored for specific uses.</p>																					